CAM-BASED SEARCH ENGINES THAT SUPPORT PIPELINED MULTI-DATABASE SEARCH OPERATIONS USING REPLACEMENT SEARCH KEY SEGMENTS

Abstract of the Disclosure

CAM-based search engines may be configured to support multiple databases within a CAM core. These databases may represent tables for different applications, which can be searched sequentially in response to a single indirect instruction that is loaded during a control cycle. The

5   databases to be searched may be identified by a multi-database search instruction that is loaded during a single data cycle, which may overlap with the control cycle. In some cases, the databases may be searched using variations of a primary search key, so that it is unnecessary to repeatedly load the entire search key across a network interface for each search

10   operation within a respective database. Instead, shorter replacement key segments may be loaded for each of a plurality of the search operations and these replacement key segments may be combined with one or more segments of the primary search key in the CAM core to define a desired search key for a respective search operation.

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